

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (Previously Presented) A method for building an information network via an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, the method comprising:

step (a) of selecting at least one frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

step (b) of encoding transmission data;

step (c) of generating a carrier wave having the frequency selected in step (a);

step (d) of modulating said carrier wave using said encoded transmission data;

step (e) of transmitting the modulated carrier wave via the antenna terminal or the antenna cable from a first information terminal;

step (f) of receiving the carrier wave transmitted in step (b) and demodulating the carrier wave to produce reception data received by a second information terminal;

step (g) receiving a first carrier wave from a first terminal and converting said carrier wave to an intermediate-frequency signal;

step (h) amplifying said intermediate-frequency signal;

step (i) demodulating the amplified intermediate-frequency signal to generate a baseband signal;

step (j) separating a synchronous signal based on said baseband signal; and

step (k) selecting said at least one frequency based on said synchronous signal.

2. (Original) The method according to claim 1, wherein, in step (a), at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is selected.

3. (Original) The method according to claim 1, further comprising a step of bidirectionally transmitting data between the information network via the antenna terminal or the antenna cable and another network by converting the format of the data.

4. (Previously Presented) A method for building an information network via an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, the method comprising:

step (a) of selecting a first frequency and a second frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

step (b) of encoding transmission data;

step (c) of generating a carrier wave having the first frequency selected in step (a);

step (d) of modulating said carrier wave using said encoded transmission data transmitted from a first information terminal and transmitting the modulated carrier wave via the antenna terminal or the antenna cable;

step (e) of receiving the carrier wave transmitted in step (d) and demodulating the carrier wave to produce reception data received by a second information terminal;

step (f) of encoding transmission data;

step (g) of generating another carrier wave having the second frequency selected in step (a);

step (h) of modulating said carrier wave having the second frequency by using said encoded transmission data transmitted from the second information terminal and transmitting the modulated carrier wave via the antenna terminal or the antenna cable;

step (i) of receiving the carrier wave transmitted in step (h) and demodulating the carrier wave to produce reception data received by the first information terminal;

step (j) receiving a first carrier wave from a first terminal and converting said carrier wave to an intermediate-frequency signal;

step (k) amplifying said intermediate-frequency signal;

step (l) demodulating the amplified intermediate-frequency signal to generate a baseband signal;

step (m) separating a synchronous signal based on said baseband signal; and

step (n) selecting said first and second frequencies based on said synchronous signal.

5. (Original) The method according to claim 4, wherein, in step (a), at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is selected.

6. (Original) The method according to claim 4, further comprising a step of bidirectionally transmitting data between the information network via the antenna terminal or the antenna cable and another network by converting the format of the data.

7. (Previously Presented) A method for building an information network via an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, the method comprising:

step (a) of selecting a plurality of frequencies not used by television broadcasting or radio broadcasting in an area where the house is located;

step (b) of dividing transmission data transmitted from a first information terminal into a plurality of channels;

step (c) of encoding said transmission data;

step (d) of generating a plurality of carrier waves having the respective frequencies selected in step (a);

step (e) of modulating said plurality of carrier waves by using the encoded transmission data from the plurality of channels; and

step (f) of transmitting the modulated carrier waves via the antenna terminal or the antenna cable;

step (g) of receiving the carrier waves transmitted in step (f), demodulating the carrier waves to produce reception data over the plurality of channels, and integrating the reception data over the plurality of channels into a single data set which is received by a second information terminal;

step (h) receiving a first carrier wave from a first terminal and converting the carrier wave to an intermediate-frequency signal;

step (i) amplifying said intermediate-frequency signal;

step (j) demodulating the amplified intermediate-frequency signal to generate a baseband signal;

step (k) separating a synchronous signal based on said baseband signal; and

step (l) selecting said plurality of frequencies based on said synchronous signal.

8. (Original) The method according to claim 7, wherein, in step (a), at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is selected.

9. (Original) The method according to claim 7, further comprising a step of bidirectionally transmitting data between the information network via the antenna terminal or the antenna cable and another network by converting the format of the data.

10. (Previously Presented) A network connection circuit for connecting an information terminal to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, comprising:

frequency-selecting means for selecting at least one frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

encoding means for encoding transmission data;

carrier generating means for generating a carrier wave having the frequency selected by the frequency-selecting means;

modulating means for modulating said carrier wave using transmission data transmitted from the information terminal;

transmitting means for transmitting the modulated carrier wave via the antenna terminal or the antenna cable;

first terminal tuning means for receiving a first carrier wave from a first terminal and for converting said carrier wave to an intermediate-frequency signal;

intermediate frequency means for amplifying said intermediate-frequency signal;

demodulating means for demodulating the amplified intermediate-frequency signal to generate a baseband signal; and

synchronous separation means for separating a synchronous signal based on said baseband signal,

wherein said frequency-selecting means selects said at least one frequency based on said synchronous signal.

11. (Previously Presented) The network connection circuit according to claim 10, wherein at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is automatically selected by the frequency-selecting means.

12. (Previously Presented) A network connection circuit for connecting a first information terminal to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, comprising:

frequency-selecting means for selecting at least one frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

receiving means for receiving a carrier wave which has the frequency selected by

the frequency-selecting means and has been transmitted from a second information terminal via the antenna terminal or the antenna cable; and

demodulating means for demodulating the carrier wave to produce a baseband signal;

decoding means for decoding said baseband signal to generate reception data received by the first information terminal;

first terminal tuning means for receiving a first carrier wave from a first terminal and for converting said carrier wave to an intermediate-frequency signal;

intermediate frequency means for amplifying said intermediate-frequency signal;

demodulating means for demodulating the amplified intermediate-frequency signal to generate a baseband signal; and

synchronous separation means for separating a synchronous signal based on said baseband signal,

wherein said frequency-selecting means selects said at least one frequency based on said synchronous signal.

13. (Original) The network connection circuit according to claim 12, wherein at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is automatically selected by the frequency-selecting means.

14. (Previously Presented) A network connection circuit for connecting a first information terminal to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, comprising:

frequency-selecting means for selecting a first frequency and a second frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

encoding means for encoding transmission data transmitted from the first information terminal;

carrier generating means for generating a carrier wave having the frequency selected by the frequency-selecting means;

modulating means for modulating said carrier wave using said encoded transmission data;

transmitting means for transmitting the modulated carrier wave via the antenna terminal or the antenna cable;

receiving means for receiving a modulated carrier wave which has the second frequency and has been transmitted from a second information terminal via the antenna terminal or the antenna cable;

demodulating means for demodulating the carrier wave to produce a baseband signal;

decoding means for decoding said baseband signal to generate reception data received by the first information terminal;

first terminal tuning means for receiving a first carrier wave from a first terminal and for converting said carrier wave to an intermediate-frequency signal;



intermediate frequency means for amplifying said intermediate-frequency signal;  
demodulating means for demodulating the amplified intermediate-frequency signal to generate a baseband signal; and  
synchronous separation means for separating a synchronous signal based on said baseband signal,  
wherein said frequency-selecting means selects said first and second frequencies based on said synchronous signal.

15. (Original) The network connection circuit according to claim 14, wherein at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is automatically selected by the frequency-selecting means.

16. (Previously Presented) A network connection circuit for connecting an information terminal to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, comprising:

frequency-selecting means for selecting a plurality of frequencies not used by television broadcasting or radio broadcasting in an area where the house is located;

dividing means for dividing transmission data transmitted from the information terminal into a plurality of channels;

encoding means for encoding said divided transmission data;

modulating means for modulating a plurality of carrier waves having the respective frequencies selected by the frequency-selecting means by using the encoded transmission data from the plurality of channels;

transmitting means for transmitting the modulated carrier waves via the antenna terminal or the antenna cable;

first terminal tuning means for receiving a first carrier wave from a first terminal and for converting said carrier wave to an intermediate-frequency signal;

intermediate frequency means for amplifying said intermediate-frequency signal;

demodulating means for demodulating the amplified intermediate-frequency signal to generate a baseband signal; and

synchronous separation means for separating a synchronous signal based on said baseband signal,

wherein said frequency-selecting means selects said plurality of frequencies based on said synchronous signal.

17. (Original) The network connection circuit according to claim 16, wherein at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is automatically selected by the frequency-selecting means.

18. (Previously Presented) A network connection circuit for connecting a first information terminal to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting, comprising:

frequency-selecting means for selecting a plurality of frequencies not used by television broadcasting or radio broadcasting in an area where the house is located; and

receiving means for receiving a plurality of carrier waves which have the respective frequencies selected by the frequency-selecting means and have been transmitted from a second information terminal via the antenna terminal or the antenna cable;

demodulating means for demodulating the carrier waves to produce a baseband signal;

decoding means for decoding said baseband signal to generate reception data over a plurality of channels;

integrating means for integrating the reception data over the plurality of channels into a single data set which is received by the first information terminal;

first terminal tuning means for receiving a first carrier wave from a first terminal and for converting said carrier wave to an intermediate-frequency signal;

intermediate frequency means for amplifying said intermediate-frequency signal;

demodulating means for demodulating the amplified intermediate-frequency signal to generate a baseband signal; and

synchronous separation means for separating a synchronous signal based on said baseband signal,

wherein said frequency-selecting means selects said plurality of frequencies based on said synchronous signal.

19. (Original) The network connection circuit according to claim 18, wherein at least one of frequencies for channels not used by the television broadcasting or radio broadcasting in an area where the house is located is automatically selected by the frequency-selecting means.

20. (Previously Presented) The method according to claim 1 comprising:  
transmitting said modulated carrier wave from a first network circuit via a first antenna terminal; and

receiving said modulated carrier wave by a second network circuit via a second antenna terminal that is in direct communication with said first antenna terminal via a distributor.

21. (Previously Presented) The method according to claim 1 comprising:  
transmitting said modulated carrier wave from a first antenna terminal to a distributor box; and

receiving said modulated carrier wave by a second antenna terminal from said distributor box.

22. (Previously Presented) The method according to claim 21 comprising:  
directly transmitting said modulated carrier wave from said first antenna terminal to said distributor box; and

directly receiving said modulated carrier wave by said second antenna terminal from said distributor box.

23. (Cancelled).

24. (Previously Presented) The network connection circuit according to claim 10 wherein said frequency-selecting means selects a frequency based on said baseband signal.

25. (Previously Presented) A network connection circuit that receives television broadcasting or radio broadcasting by an antenna, comprising:

a frequency-selecting circuit that selects at least one frequency not used by the television broadcasting or the radio broadcasting in house;

an encoding circuit that encodes transmission data;

a carrier generating circuit that generates a first carrier wave having the at least one frequency selected by the frequency selecting-circuit;

a modulating circuit that modulates a modulated first carrier wave using the transmission data and the first carrier wave;

a terminal that receives a second carrier wave;

an amplifier circuit that amplifies the second carrier wave to generate an amplified second carrier wave;

a demodulating circuit that demodulates the amplified second carrier wave to generate a baseband signal; and

a synchronous separating circuit that separates a synchronous signal based on the baseband signal.

26. (Previously Presented) A network connection circuit that receives television signals or radio signals, comprising:

a frequency-selecting circuit that selects at least one frequency not used by television broadcasting or radio broadcasting received by an antenna;

an encoding circuit that encodes transmission data;

a carrier generating circuit that generates a first carrier wave having the at least one frequency selected by the frequency selecting-circuit;

a modulating circuit that modulates a modulated first carrier wave using the transmission data and the first carrier wave;

a transmitting circuit that transmits the modulated first carrier wave;

a terminal that receives a second carrier wave;

an amplifier circuit that amplifies the second carrier wave to generate an amplified second carrier wave;

a demodulating circuit that demodulates the amplified second carrier wave to generate a baseband signal; and

a synchronous separating circuit that separates a synchronous signal based on the baseband signal.

27. (New) A method for building an information network comprising:

identifying an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;

selecting at least one frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

encoding transmission data;

generating a carrier wave having the selected at least one frequency;

modulating the carrier wave using the encoded transmission data;

transmitting the modulated carrier wave via the antenna terminal or the antenna cable from a first information terminal;

receiving and demodulating the transmitted modulated carrier wave to produce reception data received by a second information terminal;

receiving a first carrier wave from a first terminal and converting the first carrier wave to an intermediate-frequency signal;

amplifying the intermediate-frequency signal;

demodulating the amplified intermediate-frequency signal to generate a baseband signal;

separating a synchronous signal based on the baseband signal; and

selecting the at least one frequency based on the synchronous signal.

28. (New) The method according to claim 27, wherein the selecting at least one frequency not used by television broadcasting or radio broadcasting further comprises selecting at least one frequency for channels not used by the television broadcasting or radio broadcasting in an area where the house is located.

29. (New) The method according to claim 27, further comprising bidirectionally transmitting data between the information network via the antenna terminal or the antenna cable and another network by converting the format of the data.

30. (New) A method for building an information network comprising:

Identifying an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;

selecting a first frequency and a second frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

encoding transmission data;

generating a carrier wave having the first frequency;

modulating the carrier wave using the encoded transmission data transmitted from a first information terminal and transmitting the modulated carrier wave via the antenna terminal or the antenna cable;

receiving and demodulating the modulated carrier wave transmitted to produce reception data received by a second information terminal;

encoding transmission data;

generating another carrier wave having the second frequency;

modulating the carrier wave having the second frequency by using the encoded transmission data transmitted from the second information terminal and transmitting the modulated carrier wave via the antenna terminal or the antenna cable;

receiving and demodulating the transmitted modulated carrier wave to produce reception data received by the first information terminal;

receiving a first carrier wave from a first terminal and converting the first carrier wave to an intermediate-frequency signal;

amplifying the intermediate-frequency signal;



demodulating the amplified intermediate-frequency signal to generate a baseband signal;

separating a synchronous signal based on the baseband signal; and

selecting the first and second frequencies based on the synchronous signal.

31. (New) The method according to claim 30, wherein the selecting of the first frequency and the second frequency not used by television broadcasting or radio broadcasting further comprises selecting at least one frequency for channels not used by the television broadcasting or radio broadcasting in an area where the house is located.

32. (New) The method according to claim 30, further comprising bidirectionally transmitting data between the information network via the antenna terminal or the antenna cable and another network by converting the format of the data.

33. (New) A method for building an information network comprising:

identifying an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;

selecting a plurality of frequencies not used by television broadcasting or radio broadcasting in an area where the house is located;

dividing transmission data transmitted from a first information terminal into a plurality of channels;

encoding the transmission data;

generating a plurality of carrier waves having the respective selected plurality of frequencies;

modulating the plurality of carrier waves by using the encoded transmission data from the plurality of channels; and

transmitting the modulated carrier waves via the antenna terminal or the antenna cable;

receiving and demodulating the transmitted modulated carrier waves to produce reception data over the plurality of channels, and integrating the reception data over the plurality of channels into a single data set which is received by a second information terminal;

receiving a first carrier wave from a first terminal and converting the carrier wave to an intermediate-frequency signal;

amplifying the intermediate-frequency signal;

demodulating the amplified intermediate-frequency signal to generate a baseband signal;

separating a synchronous signal based on the baseband signal; and

selecting the plurality of frequencies based on the synchronous signal.

34. (New) The method according to claim 33, wherein the selecting of the plurality of frequencies not used by television broadcasting or radio broadcasting further comprises selecting at least one frequency for channels not used by the television broadcasting or radio broadcasting in an area where the house is located.

35. (New) The method according to claim 33, further comprising bidirectionally transmitting data between the information network via the antenna terminal or the antenna cable and another network by converting the format of the data.

36. (New) A network connection circuit comprising:

an information terminal to be connected to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;

a frequency-selector that selects at least one frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

an encoder that encodes transmission data;

a carrier generator that generates a carrier wave having the frequency selected by the frequency-selector;

a modulator that modulates the carrier wave using transmission data transmitted from the information terminal;

a transmitter that transmits the modulated carrier wave via the antenna terminal or the antenna cable;

a first terminal tuner that receives a first carrier wave from a first terminal and converts the carrier wave to an intermediate-frequency signal;

an intermediate frequency amplifier that amplifies the intermediate-frequency signal;

a demodulator that demodulates the amplified intermediate-frequency signal to generate a baseband signal; and

a synchronous separator that separates a synchronous signal based on the baseband signal,

wherein the frequency-selector selects the at least one frequency based on the synchronous signal.

37. (New) The network connection circuit according to claim 36, wherein at least one frequency for channels not used by the television broadcasting or radio broadcasting in the area where the house is located is automatically selected by the frequency-selector.

38. (New) A network connection circuit comprising:

a first information terminal to be connected to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;

a frequency-selector that selects at least one frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

a receiver that receives a carrier wave which has the frequency selected by the frequency-selector and has been transmitted from a second information terminal via the antenna terminal or the antenna cable; and

a demodulator that demodulates the carrier wave to produce a baseband signal;

a decoder that decodes the baseband signal to generate reception data received by the first information terminal;

a first terminal tuner that receives a first carrier wave from a first terminal and converts the carrier wave to an intermediate-frequency signal;

an intermediate frequency amplifier that amplifies the intermediate-frequency signal;

a demodulator that demodulates the amplified intermediate-frequency signal to generate a baseband signal; and

a synchronous separator that separates a synchronous signal based on the baseband signal,

wherein the frequency-selector selects the at least one frequency based on the synchronous signal.

39. (New) The network connection circuit according to claim 38, wherein at least one frequency for channels not used by the television broadcasting or radio broadcasting in the area where the house is located is automatically selected by the frequency-selector.

40. (New) A network connection circuit comprising:

a first information terminal to be connected to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;

a frequency-selector that selects a first frequency and a second frequency not used by television broadcasting or radio broadcasting in an area where the house is located;

an encoder that encodes transmission data transmitted from the first information terminal;

a carrier generator that generates a carrier wave having the frequency selected by the frequency-selector;

a modulator that modulates the carrier wave using the encoded transmission data;

a transmitter that transmits the modulated carrier wave via the antenna terminal or the antenna cable;

a receiver that receives a modulated carrier wave which has the second frequency and has been transmitted from a second information terminal via the antenna terminal or the antenna cable;

a demodulator that demodulates the carrier wave to produce a baseband signal;

a decoder that decodes the baseband signal to generate reception data received by the first information terminal;

a first terminal tuner that receives a first carrier wave from a first terminal and converts the carrier wave to an intermediate-frequency signal;

an intermediate frequency amplifier that amplifies the intermediate-frequency signal;

a demodulator that demodulates the amplified intermediate-frequency signal to generate a baseband signal; and

a synchronous separator that separates a synchronous signal based on the baseband signal,

wherein the frequency-selector selects the first and second frequencies based on the synchronous signal.

41. (New) The network connection circuit according to claim 40, wherein at least one frequency for channels not used by the television broadcasting or radio broadcasting in the area where the house is located is automatically selected by the frequency-selector.

42. (New) A network connection circuit comprising:

- an information terminal to be connected to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;
- a frequency-selector that selects a plurality of frequencies not used by television broadcasting or radio broadcasting in an area where the house is located;
- a divider that divides transmission data transmitted from the information terminal into a plurality of channels;
- an encoder that encodes the divided transmission data;
- a modulator that modulates a plurality of carrier waves having the respective frequencies selected by the frequency-selector by using the encoded transmission data from the plurality of channels;
- a transmitter that transmits the modulated carrier waves via the antenna terminal or the antenna cable;
- a first terminal tuner that receives a first carrier wave from a first terminal and converts the carrier wave to an intermediate-frequency signal;
- an intermediate frequency amplifier that amplifies the intermediate-frequency signal;

a demodulator that demodulates the amplified intermediate-frequency signal to generate a baseband signal; and

a synchronous separator that separates a synchronous signal based on the baseband signal,

wherein the frequency-selector selects the plurality of frequencies based on the synchronous signal.

43. (New) The network connection circuit according to claim 42, wherein at least one frequency for channels not used by the television broadcasting or radio broadcasting in the area where the house is located is automatically selected by the frequency-selector.

44. (New) A network connection circuit comprising:

a first information terminal to be connected to an antenna terminal or an antenna cable disposed in a house for receiving television broadcasting or radio broadcasting;

a frequency-selector that selects a plurality of frequencies not used by television broadcasting or radio broadcasting in an area where the house is located; and

a receiver that receives a plurality of carrier waves which have the respective frequencies selected by the frequency-selector and have been transmitted from a second information terminal via the antenna terminal or the antenna cable;

a demodulator that demodulates the carrier waves to produce a baseband signal;

a decoder that decodes the baseband signal to generate reception data over a plurality of channels;



an integrator that integrates the reception data over the plurality of channels into a single data set which is received by the first information terminal;

a first terminal tuner that receives a first carrier wave from a first terminal and converts the carrier wave to an intermediate-frequency signal;

an intermediate frequency amplifier that amplifies the intermediate-frequency signal;

a demodulator that demodulates the amplified intermediate-frequency signal to generate a baseband signal; and

a synchronous separator that separates a synchronous signal based on the baseband signal,

wherein the frequency-selector selects the plurality of frequencies based on the synchronous signal.

45. (New) The network connection circuit according to claim 44, wherein at least one frequency for channels not used by the television broadcasting or radio broadcasting in the area where the house is located is automatically selected by the frequency-selector.